REMARKS

By this Submission, claims 6, 7 and 14 are canceled; claims 1, 13, 15-17, 21 and 24 are amended; and new claims 25-29 are added. Reconsideration of the October 21, 2003 Office Action is respectfully requested.

1. Personal Interview

Applicants thank Examiner Price for the courtesies extended to Applicant's undersigned representative during the personal interview held on April 15, 2004. During the interview, Applicant's representative explained that claims 2-4, 12-17 and 20-23 have not been canceled as indicated in the Office Action. The proper disposition of these dependent claims is that they stand withdrawn from consideration. Other issues that were discussed during the interview are incorporated in the following remarks.

2. Objection to Drawings

To address the objection to the drawings, Applicants propose to amend Figure 1 to show the location of turbine 23. Paragraph [0042] of the specification has been amended to describe the turbine 23 shown in amended Figure 1. No new matter has been added to the application by these amendments.

3. Rejection Under 35 U.S.C. § 103

A. The Office Action rejects claims 1, 5, 9-11, 18, 19 and 24 under 35 U.S.C. § 103(a) over EP 0577117 (EP '117), or U.S. Patent No. 5,820,832 to Hüttenhofer et al. (Hüttenhofer), in view of U.S. Patent No. 5,623,819 to Bowker et al. (Bowker). The rejection is respectfully traversed.

Claim 1, as amended, recites a catalytically operating burner mounted in a gas turbine system, which comprises, *inter alia*, "a catalyzer structure that is

arranged downstream from the fuel injection device, and through which the fuel/gas mixture or reaction mixture can flow, whereby a catalyst that initiates a combustion reaction of the reaction mixture is provided inside the catalyzer structure, the catalyzer structure is divided into (i) an inlet zone which includes an inlet end of the catalyzer structure and is catalytically inactive or inert, (ii) an outlet zone which includes an outlet end of the catalyzer structure and is catalytically inactive or inert, and (iii) an intermediate zone which is catalytically active and located between the inlet zone and the outlet zone along a flow direction; a stabilization zone that is arranged downstream from the catalyzer structure, and which changes into a final combustion zone in which the actual combustion reaction of the reaction mixture or a homogenous gas phase reaction takes place, wherein the hot combustion gases generated in the final combustion zone by the homogenous gas phase reaction are fed to a downstream turbine of the gas turbine system; a heat-resistant carrier material that forms the walls of several adjoining channels that pervade the catalyzer structure in a longitudinal direction and permit the gaseous reaction mixture to flow through the catalyzer structure; the walls being coated with the catalyst in such a way that at least some of the channels have at least one catalytically active zone and at least two catalytically inactive or inert zones in the flow direction; communicating openings being constructed in the walls, through which the adjoining channels communicate with each other" (emphasis added) Support for the amendments to claim 1 is provided in canceled claim 7, and in paragraphs [0024], [0043] and [0055] of the specification.

Claim 1 has been amended to incorporate features of claim 7. As claim 7 was not rejected under this ground of rejection, claim 1 is believed to be allowable over

the cited combination of references. Dependent claims 5, 9-11, 18, 19 also are believed to be allowable for at least the same reasons as for claim 1.

Independent claim 24 recites a process of using a catalyzer structure, which comprises "providing a catalyzer structure which is divided into (i) an inlet zone which includes an inlet end of the catalyzer structure and is catalytically inactive or inert, (ii) an outlet zone which includes an outlet end of the catalyzer structure and is catalytically inactive or inert, and (iii) an intermediate zone which is catalytically active and located between the inlet zone and the outlet zone along a flow direction, the catalyzer structure including a heat-resistant carrier material that forms the walls of several adjoining channels that pervade the catalyzer structure in the longitudinal direction of the catalyzer structure and enable that a gaseous reaction mixture flows through the catalyzer structure, wherein the walls are coated with a catalyst in such a way that at least some of the channels have at least one catalytically active zone and at least two catalytically inactive or inert zones in the flow direction and wherein between the inlet end and the outlet end of the catalyzer structure communicating openings are constructed in the walls, through which the adjoining channels are communicating with each other, in a catalytically operating burner; and flowing a gaseous reaction mixture through the catalyzer structure whereby the catalyst initiates a combustion reaction of the reaction mixture inside the catalyzer structure; a stabilization zone being arranged downstream from the catalyzer structure, and which changes into a final combustion zone in which the actual combustion reaction of the reaction mixture or a homogenous gas phase reaction takes place, wherein the hot combustion gases generated in the final combustion zone by the homogenous gas phase reaction are fed to a downstream turbine of the gas turbine

system" (emphasis added). The cited references fail to suggest the claimed process for the following reasons.

EP '117 discloses catalytic structures. As acknowledged in the Office Action, EP '117 fails to disclose the use of the catalytic structures in a catalytically operating burner mounted in a gas turbine system, much less a burner as recited in claim 1.

Moreover, EP '117, Hüttenhofer and the other cited references fail to suggest the feature of "providing a catalyzer structure which is divided into (i) an inlet zone which includes an inlet end of the catalyzer structure and is catalytically inactive or inert, (ii) an outlet zone which includes an outlet end of the catalyzer structure and is catalytically inactive or inert, and (iii) an intermediate zone which is catalytically active and located between the inlet zone and the outlet zone along a flow direction," as recited in claim 24

Hüttenhofer discloses a plate-type catalytic converter, but fails to suggest a catalyzer structure divided into an inlet zone, an intermediate zone and an outlet zone, where the inlet and outlet zones are each catalytically inactive or inert, and the intermediate zone is catalytically active, as recited in claim 24.

Bowker discloses a combuster. As shown in Figure 2, the combustor includes a catalytic reactor 86 and a downstream turbine section 3. However, Bowker also fails to suggest a catalyzer structure divided into an inlet zone, an intermediate zone and an outlet zone, where the inlet and outlet zones are catalytically inactive or inert, and the intermediate zone is catalytically active, as recited in claim 24.

Accordingly, Bowker fail to provide any suggestion or motivation to modify EP '117 or Hüttenhofer to achieve the process recited in claim 24. Thus, the claimed

process is believed to be patentable over the cited references. Therefore, withdrawal of the rejection is respectfully requested.

B. The Office Action rejects claims 6-8 under 35 U.S.C. § 103(a) over EP '117, or Hüttenhofer, in view of Bowker, and further in view of U.S. Patent No. 5,248,251 to Dalla Betta et al. (Dalla Betta) and U.S. Patent No. 5,512,250 to Betta et al. (Betta). The rejection is respectfully traversed with respect to pending claims 6 and 8.

Claims 6 and 8 depend from claim 1. Applicants respectfully submit that the applied references fail to suggest the catalytically operating burner recited in claim 1 for the following reasons. As explained above, EP '117, Hüttenhofer and Bowker fail to suggest at least the feature recited in claim 1 of "a catalyst that initiates a combustion reaction of the reaction mixture is provided inside the catalyzer structure, the catalyzer structure is divided into (i) an inlet zone which includes an inlet end of the catalyzer structure and is catalytically inactive or inert, (ii) an outlet zone which includes an outlet end of the catalyzer structure and is catalytically inactive or inert, and (iii) an intermediate zone which is catalytically active and located between the inlet zone and the outlet zone along a flow direction" (emphasis added). Applicants respectfully submit that Dalla Betta and Betta fail to cure the deficiencies of the EP '117, Hüttenhofer and Bowker regarding the burner recited in claim 1.

Dalla Betta discloses graded combustion catalysts, as shown in Figures 1a-2d. Dalla Betta fails to disclose or suggest that the graded catalysts include an inactive or inert zone, much less an inlet zone and an outlet zone that are inactive or inert, as in the catalyzer structure recited in claim 1.

Betta discloses catalyst structures including longitudinally disposed, adjacent channels, which are either catalyst-coated or catalyst-free. For example, Figure 5 shows a catalyst structure including catalyst 56 applied on longitudinally-extending surfaces. Betta does not suggest at least a catalyzer structure that "is divided into (i) an inlet zone which includes an inlet end of the catalyzer structure and is catalytically inactive or inert, (ii) an outlet zone which includes an outlet end of the catalyzer structure and is catalytically inactive or inert, and (iii) an intermediate zone which is catalytically active and located between the inlet zone and the outlet zone along a flow direction," as recited in claim 1.

Accordingly, the applied references fail to provide any suggestion or motivation to modify EP '117 or Hüttenhofer to achieve the process recited in claim 1. Thus, the process recited in dependent claims 6 and 8 is believed to be patentable over the cited references for at least the same reasons as those for claim 1. Therefore, withdrawal of the rejection is respectfully requested.

4. New Claims

New claims 25-27 depend directly or indirectly from claim 1. Claim 25 recites that "the intermediate zone is divided into a plurality of partial zones." Claim 26 recites that "one of the partial zones is catalytically inactive or inert." Support for claims 25 and 26 is provided in paragraph [0055] of the specification. Claim 27 recites "a gas turbine system, comprising: a catalytically operating burner as claimed in claim 1; and a turbine downstream from the burner." Applicants respectfully submit that Claims 25-27 also are patentable for at least the same reasons as those for claim 1.

Claims 28 and 29 depend from claim 24. Support for claims 28 and 29 is provided in paragraph [0055] of the specification. Applicants respectfully submit that Claims 28 and 29 also are patentable for at least the same reasons as those for claim 24.

5. Conclusion

For the foregoing reasons, withdrawal of the objection and rejections and prompt allowance of the application are respectfully requested.

Respectfully submitted,

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ANNOTATED SHEET

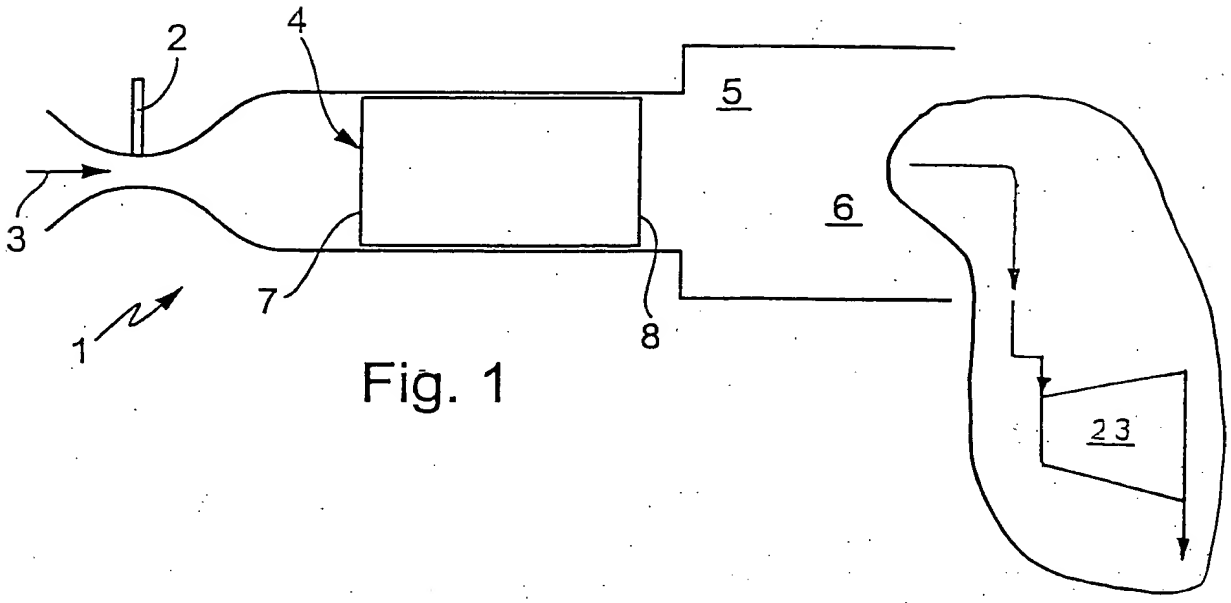

Fig. 1

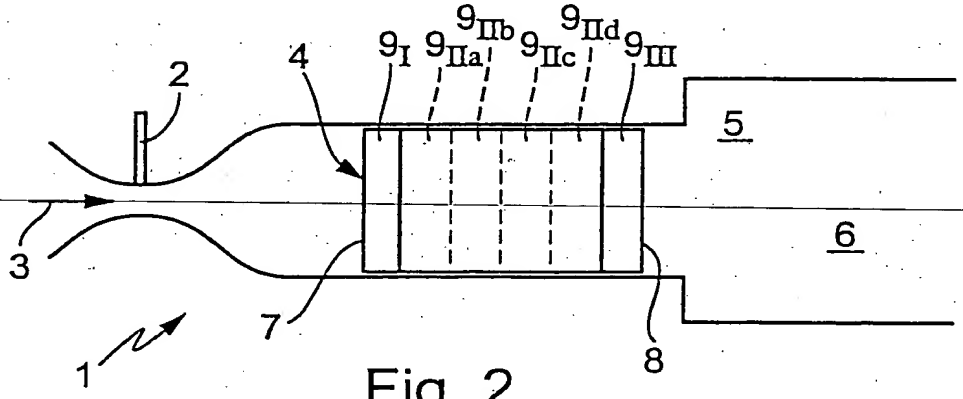

Fig. 2

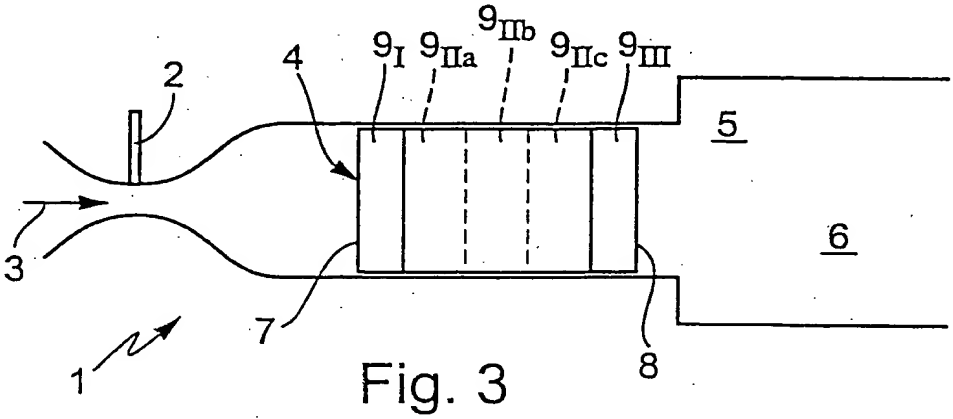

Fig. 3